Economic Development and Financing in Mumbai

In 2003, a group of Mumbai citizens and businessmen produced a brief report entitled *Vision Mumbai: Transforming Mumbai into a World Class City*. This document started with the realisation that Mumbai had been losing ground, and outlined a plan, or rather of vision, to revitalize this great city. As a follow up, the Maharasthra State Government created a task force, involving the authors of *Vision Mumbai*, that is presently working on the transformation of this vision into an action plan, or as it is now often called a “business plan”. The World Bank has been asked to support this effort. This note is a modest contribution to this goal, and is focussed on finance and financing issues. It begins with an attempt to define Mumbai, a preliminary analysis of the past and potential growth of Mumbai, a tentative assessment of the policies that could foster Mumbai’s growth, rough estimates of the investments needs associated with such policies, and a discussion of how they could be met. This note is based on fragile data, and in many cases on mere guesstimates; footnotes in italics indicate what additional work could and should be done to provide better foundations to analysis and policy; these footnotes can be seen as a draft research plan for the existing Task Force.

Definitions of Mumbai

The word Mumbai is used to designate at least three different realities. It can mean: (i) the City of Mumbai, a 67 km2 area inhabited in 2001 by 3.3 million people, (ii) Greater Mumbai, a 446 km2 area inhabited by 11.9 million people that comprises the City of Mumbai plus what is called the suburbs, or finally (iii) Metropolitan Mumbai, a 645[1] km2 area inhabited by 18.8 million people that includes in addition to Greater Mumbai the urbanized part of the adjacent Thane and Raigard districts. Table 1 illustrates these three concepts.

The most relevant concept is certainly the third one, and the one we shall use when speaking of “Mumbai”. A mere look at the aerial photography of the zone shows it clearly. The urbanized area extends well below the frontiers of “Greater Mumbai”. It is this area of about 650 km2 that constitutes a unified (although imperfect) labor market and inputs market. To understand what is happening in Mumbai, and to define policies for Mumbai, it is this metropolitan area that should be considered.

Mumbai therefore consists of three areas that can and should be distinguished for analytical purposes. First, there is a center or core, referred to as the City. Then there is what would be called a first ring in the rest of the world, and which is called here the “suburbs”. Then, there is a second or outer ring, consisting of the urbanized areas of Thane and Raigard districts. This is shown in Table 1.

[1] *The area of urbanized districts in Thane and Raigard is a guestimate that should be repaced by actual numbers.*

Table 1 – Three Definitions of Mumbai, 2001

	Area (km2)	Population (M)	Employment (M)
Center ("City")	67	3.3	1.6
First ring ("Suburbs")	378	8.6	1.0
Outer ring (Thane and Raigard)	200	6.9	1.0
Mumbai (Metropolitan Mumbai)	645	18.8	3.6

A number of studies and documents —and people— mean "Greater Mumbai" when they say "Mumbai". They tend to forget the seven million people living in the urbanized areas of the adjacent counties of Thane and Raigard. The reason is that Greater Mumbai is a political jurisdiction. It is a district of the State of Maharasthra, and a municipal corporation (the Bombay Municipal corporation or BMC), with an elected council and an appointed commissioner. Statistics are collected and available for this area, and policies are conducted in it.

The urbanized area of Thane, which is a district of the State, includes several municipal corporations, such as Thane[2] (1.3 M inhabitants), Kalyan Dombiwali (1.2 M), Biwandi (0.6), Mira Bhardar (0.5 M), Ulhasnagar (0.5 M) to the North of Grater Mumbai, and Navi Mumbai (0.7 M) to the East[3]. To produce meaningful numbers for metropolitan Mumbai, it is therefore necessary to add numbers collected for Greater Mumbai, and numbers collected for these other municipal corporations or for the urbanized area of Thane district.

It follows that there is no political institution to analyze, discuss, and try to solve the problems of Mumbai. The State of Maharasthra is too large for that, and it is, for good and obvious reasons, focused on its rural areas which are home to the majority of its people —and voters. The Mumbai Municipal Corporation is too small, as indicated. In that sense, there is no pilot in the Mumbai plane.

The weight of Mumbai, in GDP terms and in 2003-4, obtained by adding existing estimates of the GDP of Greater Mumbai and of the GDP of the urbanized part of Thane and Raigard, was about 18,500 Rs crores, or 27 billion US$. This is about 40% of the GDP of Maharahstra and 4% of the GDP of India[4]. How does it compare with other world cities? Table 2 is a crude attempt[5] at answering this question.

[2] Thane is the name of a district, and of a corporation (which is of course part of the district)

[3] The population numbers given here refer to the 2001 Census ; the population of these corporations increases rapidly : the population of Navi Mumbai, for instance, is reported to be 1.3 M in 2005.

[4] *These ratios are guestimates and should be checked*

[5] *This Table could be updated for a more recent year, and include also purchasing power parity numbers.*

Table 2 – GDP of Mumbai and other Large World Cities, 2000

	Pop (M)	GDP (G)
Tokyo	33.3	1,436
New York	20.1	1,050
Los Angeles	15.8	617
Paris	11.0	510
London	7.3-14.7	278-500
Hong-Kong	6.8	176
Seoul	15.7	149
Mexico	18.3	149
Sydney	4.0	94
Singapore	4.0	92
Shanghai	16.7	50
Cairo	10.6	33
Beijing	13.8	27
Manila	10.4	24
Mumbai	**18.1**	**22**
Jakarta	11.0	16

Sources: Authors calculations, based on UN data for population, and national Statistical yearbooks for GDP. “London” is particularly difficult to define: the first numbers relate to the so-called “Greater London”, the second to a meaningful definition of the economic agglomeration. G (giga) stands for billion (10^9). The GDP for Mumbai in 2000 has been retropolated from the data for 2003.

It suggests that the ranking of Mumbai, which is high in population terms (there are only three or four cities more populated than Mumbai in the world), remains modest in terms of GDP. A complete list of cities would include a number of other American and European cities. It would show that there are at least 30 world cities with a greater output than Mumbai. Admittedly, estimates in purchasing power parities would present a somewhat different picture. And GDP is only one possible indicator of the economic importance of a city. Finally, these numbers relate to 2000, and the growth at which the GDP of these (and of other) cities varies greatly, and a 10% increase over a few years does make a great difference. In 2006, assuming the 6% growth rate discussed below, Mumbai’s GDP has probably reached 32 billion US$.

Growth of Mumbai

Before thinking about the future growth of Mumbai, it might be useful to find out what the recent growth has been and where it has taken place. Part of the answer is provided by Table 3 that gives numbers for population, GDP and employment. The period covered are not exactly similar, but numbers converted in yearly increases can broadly be compared.

Table 3 - Past Growth of Mumbai, Recent Years

(in % per year)

	Population (1991-2001)	GDP (1993-2003)	Employment (1990-1998)
Center ("City")	0.5%	na	
First ring ("Suburbs")	2.4%	na	
Center & 1rst ring (Greater M)	1.9%	5.4%	0.1%
Outer ring (Thane & Raigard)	4.1%	7.6%	
Mumbai (Metropolitan Mumbai)	2.7%	6.2%	

Source: Calculated from Census data for population, from Economic Census for employment, and from official GDP estimates for the Greater Mumbai district by means of a regression analysis on 1994-2004 data in constant prices. GDP data for the outer ring and for Mumbai is calculated on the crude assumption that GDP per inhabitant increased in these areas at the growth rate calculated for Mumbai (3.5% per year)

The picture is relatively clear for population. The overall population of Mumbai increased by 2.7% per year over the past decade. The natural rate of growth for the same period was about 1.6% per year. In other words, net in-migration accounted for about 1.1% per year. This is about 200,000 people per year, and 2.6 million in-migrants in ten years. Differences in population growth between the various parts of the city are large although not surprising. Population increased slowly (0.5% per year) in the center (the "City"), moderately (1.9%) in the first ring (the "Suburbs"), and rapidly (4.1%) in the Thane and Raigard districts. Assuming similar rates of natural growth in the three areas, this means that the center is actually experiencing net out-migration, and that the burden of in-migration is concentrated in the first and outer rings, particularly in the urbanized and rapidly urbanizing part of Thane and Raigard districts. There is every reason to expect that such trends will continue in the future[6].

For GDP the data available relates to Greater Mumbai only. It indicates a 5.4% per year growth rate. This can be extrapolated to Mumbai at large (metropolitan area), and suggests a 6.2% per year growth rate for the 1994-2004 period, implying a doubling of GDP in less than 12 years. These numbers are much higher than the 2.4% growth rate for "Mumbai" (meaning probably Greater Mumbai) quoted in *Vision Mumbai*. This discrepancy is explained by the difference in the periods considered (1998-2002 in *Vision Mumbai*, 1994-2004 in our analysis) and by the fact that there are great variations in the year to year growth rates recorded. This is not unusual for a large city, which is generally more cyclical than a country at large. Our procedure, based on a logarithmic regression over a 10 years period, is more realistic, and the 6.2% it produces is more representative of the growth of Mumbai in the past decade[7]. This implies an average 3.5% per cent increase in per capita GDP.

[6] *This analysis could and should be expanded with the data recently released on migration*

[7] *It would be interesting to compare this growth rate with that of other major Indian cities. It would also be useful to conduct a shift-share analysis with the sum of these cities to identify the structural and specific components of this growth rate.*

The employment data available to us[8] suggests that this relatively high economic growth rate has been accompanied by a very low employment growth rate of 0.1% per year. This suggests a very low elasticity of employment to growth (lower than 0.02). This phenomenon, which would explain GDP growth by productivity growth is not at all implausible. It would reflect a structural change, the shift from a low productivity manufacturing sector to much higher productivity tertiary sectors. It also has serious social implications. The stagnation of employment means that the ratio of jobs to population has been deteriorating. The number of jobless increased. At the same time GDP, and therefore income, increased substantially. This increase benefited people with a job and/or people with capital. Inequality must have increased substantially in Mumbai in the past decade[9].

Policies for Mumbai

As stated in *Vision for Mumbai*, the output of the city should grow at a rate of 10% or more. This objective appears feasible, for at least three reasons. First, as mentioned above, the present growth rate is already at about 6%. Second, the growth potential of Mumbai is enormous. Third, there are a number of well identified artificial and policy-made obstacles that could, at least in theory, be lifted, and make it possible for Mumbai to fulfill its growth potential.

As is well-known, many supply and demand characteristics of Mumbai are favorable to its economic development. There is first the existence of a large labor market pool. There are 3.6 million jobs —and workers. The city is sufficiently compact and transportation sufficiently efficient (although it could and should be much improved) to ensure that a large share of these jobs can be accessed by these workers, making it a large effective labor market, which is a major contributor to economic efficiency and productivity[10]. The labor force is diverse and of good quality. It includes low skilled workers ready to work anywhere at very low wages (immigrants coming from the countryside), and high skilled workers with college and university training. Second, there is an ample supply of entrepreneurship. Mumbai is a city of businessmen, that values money making and has traditionally attracted risk takers from all over the country. It is probably the most cosmopolitan Indian city. Third, some key inputs such as power and water are available in reasonable quantity and quality and at reasonable prices, at least relative to many other Indian cities. Fourth, and although capital is a foot-loose production factor, the fact that Mumbai is the financial center of India facilitates the availability of capital in the city. Finally, Mumbai is the door of India. It is the main port for both imports and exports, and accordingly a natural logistics center (logistics is not only a growing sector in itself, but a major inputs for many other sectors). Mumbai is also home to main (or the second) largest airport in the country. It is and will be one of the main beneficiary of the increasing integration of India in world markets.

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[8] *More can probably be found in the Economic censuses of 1990 and 1998.*
[9] *This analysis should be extended, deepened and substantiated.*
[10] *A 60,000 persons transport survey is presently beeing completed : this will make it possible to give substance and measurement to this assertion.*

These favorable characteristics are reflected and summarized in the very high real estate rental and purchase prices prevailing in Mumbai. These high prices are often —quite correctly— seen as a problem for the development of the city. They can also be seen as a proof of the attractiveness of Mumbai. The people and enterprises who are ready to pay such high prices to be located in Mumbai, rather than elsewhere, do so because this location is advantageous to them.

However, as is equally well-known, this growth potential is repressed by a set of land use and housing policies that (in addition to topography) restrict severely the availability of housing, commercial and industrial space —a key input into the growth process. These obstacles to growth have been clearly identified in Bertaud *et al* (2005). They include in particular severe rent controls, very low floor-space ratios (known as floor space index or FSI in Mumbai), and large frozen and unused tracts of land in prime locations. These well-meaning regulations have been introduced to protect the poor and the quality of life. They have achieved exactly the opposite. Both the incentive to build and the possibility to build have been drastically reduced. The amount of housing space per inhabitant is much lower that it could and should be in view of Mumbai's incomes, and nowhere in India is the relative importance of slums so high. The quality of housing is as bad as its quantity. Most buildings are not properly maintained. As usual, these policies-made scarcities have pushed prices up. Mumbaites, particularly the poor, pay much and get little. As usual also, these constraining regulations create powerful pressures for bribes and corruption; nobody believes that such pressures are always successfully resisted.

As is also usually the case, these constraints on the supply of build up space have resulted in a massive economic rent. It is reported that Mumbai's inhabitants spend about 30% of their income on housing. This would be about 7 billion of US$ per year, ignoring payments made for non residential uses. Since the recipients of that enormous amount do not spend much to maintain or increase the stock of built-up space, much of this income constitute a rent, not a normal rate of return on a socially desirable investment. Needless to say that this rent is very unequally distributed, and that the people who enjoy it are not strong supporters of the policies that could reduce or dissipate it.

Figure 1 offers a stylized presentation of this reality. AB is the "normal" rent gradient in a city, high in the city center (in A) and low at the city fringe (in B) where land prices are about equal to the agricultural land price R. The total Ricardian urban rent is equal to RAB. In Mumbai, land use constraints push up the land gradient to CD. The total rent becomes RCDB. Land use constraints therefore create an artificial rent equal to ACDB, that functions like a tax on urban dwellers benefiting land owners.

Figure 1 – Mumbai Land Rent

The policies that could increase the supply of built-up space, and increase economic growth as well as citizen's welfare, are well-known. Mumbai can grow in three main ways or directions. It can grow up, if FSIs are increased, particularly in the center, to what can be found in most other large world cities. It can grow North and East, if infrastructure links are created. It can grow on itself so to say, if the non-utilized or sub-utilized lands of closed mills, harbor and navy base are developed.

The main components of a development strategy for Mumbai are not so much to introduce costly incentives to growth but rather to remove artificial obstacles to growth.

This statement does not imply that some incentives could not be useful, much to the contrary. Promoting world class universities and research centers, for instance, would undoubtedly add to the attractiveness of Mumbai. Creating a second international airport, or improving the J. Nehru Port Authority, might prevent bottlenecks in the future.

This statement does not imply that it is easy to do either. The political economy problems associated with the required changes are enormous. Changes would affect both a few very rich property owners, and millions of very poor tenants. Both groups are powerful, by virtue of their wealth in one case, and of their numbers in the other. Both will oppose change, either because they have much to lose in one case or because they believe they have something to lose in the other case (in any case, all changes, even for the better, are costly for the very poor).

Investments for Mumbai

Growth requires investments. High growth requires high investments. It seems very difficult to get meaningful orders of magnitude of what investments are presently in Mumbai[11]. Investment rates seem to be low. As one travels throughout the city, one hardly sees any cranes, unlike what can be seen in many fast developing cities. Investment in housing cannot possibly be very important, be it in maintenance and repair or in new additions to the housing stock. Investment in factories and office buildings is likely not to be massive in a city in which employment stagnates. Investment in public infrastructure is better known, and does not appear to be massive either.

It is easier to produce very crude estimates of what would be required to generate a 10% or a 15% GDP growth rate in Mumbai. We can associate a 25% rate of investment with a 10% GDP growth rate, and a higher 35% rate of investment with a 15% GDP growth rate, and construct the following Table 4.

Table 4 – Investment Needs for Mumbai, 2006-2020

	GDP 10%/year (G US$)	Investments 25% of GDP (G US$)	GDP 15%/year (G US$)	Investments 35% of GDP (G US$)
2006	32	8	32	11
2007	35	9	37	13
2008	39	10	42	15
2009	43	11	49	17
2010	47	12	56	20
2019	110	28	197	69
2020	121	30	226	79
Total 2006-2020	1017	254	1522	532

Source : own calculations. G (giga) stands for billion (10^9)

Table shows that in the first case (10% GDP growth rate, investment rate of 25%), yearly investment needs would amount to 6-9 billion US$ in the coming years and increase to more than 20 billion US$ at the end of next decade. The total amount of investment required over the 15 years period considered amount to about 200 billion US$. These numbers sound impressive. They are five times greater than the 40 billion US$ cited in the *Vision Mumbai* report (for a not clearly specified period of time). Yet they are conservative. A

[11] *Additional work should be done on that topic. The activity of the construction sector should yield useful insights. Most construction work contributes to gross capital formation, although the reverse is not quite true. But the numbers available in published statistics on « construction » are ridiculously low, and cannot reflect the effective importance of the construction sector. More work would be necessary to find out where constructions activities and workers are hidden.*

25% investment rate is moderate: it is lower than the present investment rate of India as a whole, not to mention Chinese cities or provinces investment rates which are in the 40%-45% range. As a matter of fact, the numbers in the second case (15% GDP growth rate and 35% investment rates) are probably closer to what is desirable, yet feasible.

Financing Mumbai's Investments

The investments to be done in Mumbai are of three different types: investments in housing, investments in productive capital, and investments in infrastructure. Not enough is known on what the relative importance of these types of investments is or should be. Based on an earlier study (Prud'homme 1977) of the French case (admittedly a foundation of dubious relevance) let us assume that productive capital accounts for 50% of total investments, housing investments for 30%, and infrastructure for 20%.

Half the investment flows would therefore consist of productive investments in factories, office buildings, commercial space and related equipment. It can and should be financed by private enterprises without too many difficulties. These investments are revenue producing. Some might be financed by foreign direct investments, but the bulk of it will be financed out of profits or of bank loans.

The other half of the investment flows consists of housing and infrastructure, that have to be financed by a combination of public and private sources.

Potential scope of public financing – Public financing can come from several sources: local governments, i.e. municipal corporations, and the entities they control; the State of Maharhastra government; the government of India. Some people would add: international institutions, although it must be kept in mind that they merely lend or donate money to governments. It is not likely that the government of India can be expected to invest much in housing or infrastructure in Mumbai. Nor will the government of Maharasthra. The latter is heavily indebted, and its expenditures represent about 140% of its revenues. It cannot spend much more. And if it could, it would naturally favor expenditures in the countryside, where about 80% of the people (and the voters) live, and where incomes per capita are 2 or 3 times lower than in Mumbai. One could try to argue that because Mumbai pay significant taxes to the State, investing in Mumbai to increase its output and therefore its taxes paid to the State, might make sense from a revenue point of view for the State of Maharasthra. But this argument, even if it were true, would probably not carry much political weight.

The bulk of public financing for housing and infrastructure will therefore come from the municipal corporations, and in particular from the most important of them, the Municipal Corporation of Greater Mumbai (MCGM)[12]. Its simplified budget is presented in Table 5.

[12] *It would be necessary to present in a similar form the budgets of the six major corporation of Thane district*

Table 5 – Municipal Corporation of Greater Mumbai Budget, 2003-4

	Rs crores	US$ M
Revenues :		
Taxes	3604	819
Octroi	2380	541
Property tax	1223	280
Charges (water & sewerage)	724	164
Subsidies from the State	274	62
Other, including borrowing	1780	405
Total, revenues	6382	1450
Expenditures :		
Salaries & pensions	2422	550
Debt service	490	111
Capital expenditures	1146	260
Other	2317	527
Total, expenditures	6382	1450

Sources and notes : include budgets A (general budget), B (properties), E (education) and G (water supply and some other)

The MCGM is presently investing less than 0.3 billion US$. Taking into account the municipal corporations of Thane district might increase that number to 0.4 billion. This is less than 10% of housing and infrastructure investment needs, ignoring the existing backlog. It is difficult to see how this number could substantially be increased. Non capital expenditures are probably difficult to reduce; and it would be even more difficult to increase taxes.

There are only two local taxes, and both are “bad”, although for different reasons. The most important one (accounting for about 2/3 of total taxes), octroi, is a tax based on the value of goods entering the jurisdiction. Trucks are actually stopped as they enter the city, their cargo summarily examined and its value crudely assessed. The main cost of the tax is the delay it imposes on deliveries. In addition, the process invites arbitrariness and corruption. Nobody thinks of increasing the burden of octroi: the question is rather whether it should be abolished, and if so by what tax could it be replaced.

The property tax is in principle a rather good local tax, in the sense that it does not distort too many decisions. But it is a tax difficult and costly to administer. Assessing the changing rental or capital values of millions of properties is no easy task. This general, world wide, difficulty is compounded in the case of Mumbai by rent control and the many land use regulations in force. In a sense, the property tax is another casualty of excessive regulations. Property tax assessment also invites corruption. It is reported that the property tax base is very unequally assessed, varying greatly between the center (the “City”) and the first ring (the “Suburbs”), between new and old buildings, between residential and non-residential properties. As a result assessed values bear no relationship to actual values. Two properties of a similar rent (or value) can be assessed at values differing from 1 to 100. Assuming that the average value of the housing stock is 4 times annual income, and that residential properties contribute 2/3 of the tax proceeds, the property tax would represent 0.25% of the value of residential properties on average. This is not excessive by international standards. But the property tax is widely perceived as an unfair or unjust tax. It is always difficult to increase a tax, particularly a tax paid by many taxpayers; but it is next to impossible to increase an unjust tax. This does not mean that one should not attempt to improve the property tax, much to the contrary. The current proposal to change the definition of the tax base from rental value to capital value is perfectly reasonable, although not too much should be expected from it (in principle, if not always in practice, rental values and capital values only differ by a factor □which is constant for all properties). But it will be difficult and lengthy to introduce. No significant increase in tax proceeds should be expected in the coming years.

One is left with the conclusion that municipal finance, and with it public finance, will be grossly inadequate to finance housing and infrastructure investments needs of about 4 to 5 billion US$ now, to be increased rapidly to much higher levels. One is therefore forced to look in the direction of private sector financing.

Potential scope of private sector financing – Fortunately, the picture is not so dark on the private sector side. The constraints that are the cause of many of Mumbai's growth problems are also the solution to these problems. The thirst for floor space is so great that people and enterprises in Mumbai are ready to pay very high prices for it. They are ready to pay prices much higher than the cost of providing this floor space, even if one includes infrastructure investments in this cost. It follos that there are developers willing to make the required housing and infrastructure investments because there is a market for it. The planned bridge connecting the center (the City) to the south of Navi Mumbai is an excellent example of this. This bridge costs about 1 billion US$. The demand for residential and commercial floor space in the area to the south of Navi Mumbai is such that the sale of constructed floor space in this area will cover construction costs of both the floor space and the bridge —plus an unknown profit to the developer. This is the reason why there are developers ready to build the bridge, provided they are allowed to build floor space in this area and to put a toll on the bridge.

Another way to put it is to say that the massive present economic rent can and should be mobilized to finance the housing and infrastructure investments that will contribute to reduce or eliminate it.

The development strategy outlined above —develop the city up, North and East, and on itself— therefore appears self-financing. The private sector is ready to do it, and to provide the housing and infrastructure that should be part of this development. Financing investments is not a major problem.

This financing strategy, however, is not without raising some difficulties. Five can be mentioned and briefly discussed.

First, it puts a heavy burden on planning and planners. It is easy to say that more land should be developed and that developers that want to do the job should be allowed to. It is much more difficult to conduct this process in practice. Developers cannot be left entirely free to decide what they will offer in terms of layout, densities, uses mix, infrastructure. One should not go from the present excessive constraints to a complete absence of constraints. Then, developers must be selected by competitive bidding processes as transparent as possible. Finally their work must be monitored and in certain cases redressed. This is a delicate work that requires technical and political skills that may or may not be present. Very few (if any) politicians, or administrators or planners, as they are now, seem fully prepared for such a task. In addition, the geographical scope required would be larger than the existing jurisdictions; But these are governance problems rather than financing problems.

Second, this raises the question of whether some public bodies could not or should not be able to play the role of developers. The answer is: yes. As a matter of fact, it is already happening. CIDCO has developed Nova Mumbai very much along those lines. MMRDA (Mumbai Metropolitan Regional Development Agency) is at the same time a traditional planning agency, involved in the preparation of a master plan, and a developer, that has successfully developed housing and commercial estates in the North East of the first ring (the "Suburbs") and accumulated substantial benefits at that. MSRDC (Municipal State Road Development Corporation) builds and operate roads, such as the Western sea highway (for about a billion US$) on a commercial basis, that is with toll financing, without asking for government subsidies. Parastatals therefore can be created and operate like private enterprises. The real issue is whether they are as efficient and innovative as private enterprises, and who will control and monitor them. The notion that MMRDA be at the same time a planning agency that prepares "good" plans, and a development agency that makes money at implementing them, might create conflicts of interests. Here again, the problem is a governance problem.

Third, is there not an alternative, which would be that municipal corporations tax heavily land profits associated with private developments, and then spend the money thus collected on infrastructure and possibly housing investments ? In theory, this alternative would make sense. In practice, it is doubtful that a sufficiently efficient tax system (implying a quadrupling of existing taxes) could be developed, and not sure that the money thus collected would actually be spent on infrastructure projects, and/or be spent efficiently.

A fourth issue is what would happen in the medium term with the strategy suggested. In the first year, because of the present demand for space, it will be easy to make people pay for infrastructure. But as time passes, the very success of this strategy will reduce the pressure on prices (it is indeed one of its objectives). Will not this make it more difficult to pursue this strategy? If there were no growth, this is certainly what would happen. But with the rapid growth (that this strategy will contribute to ensure) will ensure that the demand for built up space continues to be high, and to provide the financing required for the continuation of this virtuous circle.

Finally, it should be clear that this strategy will not bring a solution to all the present problems of Mumbai, and in particular to the slum problems. Market mechanisms, even when monitored and orientated by enlightened governments or regulators, cannot be expected to achieve everything. Strong social policies are required to redress the present alarming situation, and to mitigate the negative impacts of rapid economic change.

Conclusions

In conclusion, it appears that a 10% GDP growth rate for Mumbai is perfectly feasible and sustainable. It requires primarily the unlocking of the growth potential of the city, by alleviating the dramatic pressure that exists on floor space supply for both households and businesses. This requires in turn regulatory changes and massive investments in infrastructure and housing. It is not realistic to expect that these investments will be financed by “government”. None of the three levels of government (the Union, the State and the municipal corporations) will be able to do so. Fortunately, most of the floor space construction needed to unlock Mumbai will generate sufficient income to finance the necessary housing and infrastructure investments.

References

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